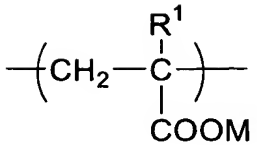
WHAT IS CLAIMED IS:

1. A cosmetic polymer composition comprising a straight-chain block copolymer having a unit derived from a compound having an ethylenic unsaturated bond, having a number-average molecular weight of 1.0×10^3 to 1.0×10^6, and having two or more glass transition points or melting points.

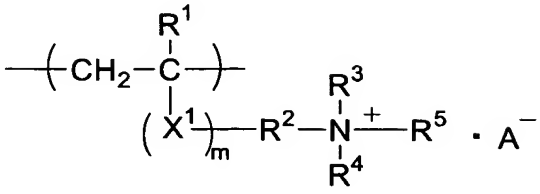
2. The cosmetic polymer composition of claim 1, wherein the block copolymer comprises at least one block composed of a unit having a hydrophilic group.

3. The cosmetic polymer composition of claim 2, wherein the hydrophilic group is at least any one selected from groups consisting of an anionic group consisting of carboxylic acid group, sulfonic acid group, phosphonic acid group and salts of these groups; a cationic group consisting of amino group (including quaternary ammonium salt group), pyridyl group and salts of these groups; a nonionic group consisting of hydroxyl group, alkoxy group, epoxy group, amido group and cyano group; an amphoteric ionic group consisting of carboxybetaine group; and a semipolar group consisting of amine oxide group.

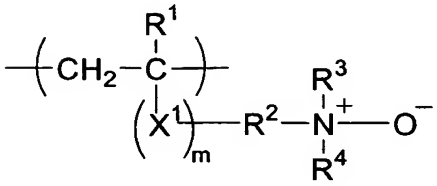
4. The cosmetic polymer composition of claim 1, wherein the block copolymer comprises at least one of units represented by formulae (1) to (5) below:



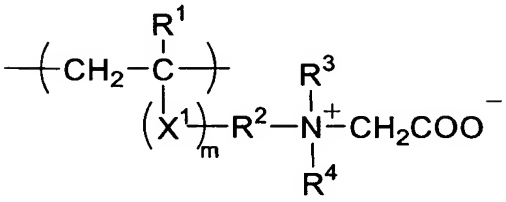
(1)



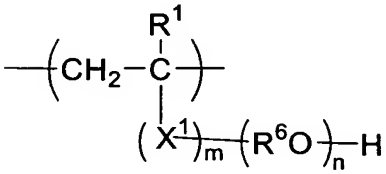
(2)



(3)



(4)



(5)

(where, R^1 represents a hydrogen atom or a methyl group; R^2 and R^6 respectively represent a C_{1-4} straight-chain or branched-chain alkylene group; R^3, R^4 and R^5 respectively represent a hydrogen atom, C_{1-24} alkyl group, C_{6-24} aryl group, or any combination thereof such as C_{7-24} arylalkyl group or alkylaryl group; and X^1 represents -COO-, -CONH-, -O- or NH-. A^- represents an anion; and M represents a hydrogen atom, an alkali metal ion or an ammonium ion. m is 0 or 1; and n is any integer from 1 to 50.)

5. The cosmetic polymer composition of claim 1, wherein the block copolymer comprises a unit derived from an ethylenic unsaturated carboxylic acid, and a unit derived from an ethylenic unsaturated carboxylate ester.

6. The cosmetic polymer composition of claim 1, wherein the block copolymer comprises at least one block formed by post-treatment after polymerization.

7. The cosmetic polymer composition of claim 1, wherein the block copolymer has a glass transition point or a melting point nearly equal to a glass transition point or a melting point of a homopolymer composed of the monomer which make up at least one block of the block copolymer.

8. The cosmetic polymer composition of claim 1, wherein the block copolymer has a ratio (Mw/Mn), which is a ratio of weight-average molecular weight (Mw) to number-average molecular weight (Mn), of 2.5 or less.

9. The cosmetic polymer composition of claim 1, wherein the block copolymer is dispersible or soluble in water and/or alcohol.

10. The cosmetic polymer composition of claim 1, wherein the block copolymer is produced by controlled radical polymerization using an organic halide as an initiator, and

using, as a catalyst, at least a metal complex having a metal selected from Group VIII, Group IX, Group X and Group XI elements in the periodic table as a central metal.

11. The cosmetic polymer composition of claim 1, wherein the block copolymer is capable of forming a film having a Young's modulus (measured according to JIS K7161 under a tensile speed of 20 mm/min) of 50 MPa or larger and a fracture-point elongation of 100% or larger, and dispersible into water and/or alcohol.

12. A hair cosmetic polymer composition comprising a copolymer capable of forming a film having a Young's modulus (measured according to JIS K7161 under a tensile speed of 20 mm/min) of 50 MPa or larger and a fracture-point elongation of 100% or larger, and dispersible into water and/or alcohol.

13. The cosmetic polymer composition of claim 1, which is a hair cosmetic polymer composition, comprising, in addition to the copolymer (a), an anionic polymer (b1) in a ratio by weight ((a)/(b1)) of 1/10 to 10/1.

14. The cosmetic polymer composition of claim 13, wherein the anionic polymer (b1) is a polymer having an anionic group selected from carboxyl group, sulfonic acid group, phosphonic acid group and salts of these groups.

15. The cosmetic polymer composition of claim 1, which is a hair cosmetic polymer composition, comprising, in addition to the copolymer (a), a cationic polymer (b2) in a ratio by weight ((a)/(b2)) of 1/10 to 10/1.

16. The cosmetic polymer composition of claim 15, wherein the cationic polymer (b2) is at least any one cationic polymer selected from ① to ④ below:

① copolymer of which constituents are N-vinylpyrrolidone and/or N-vinylcaprolactam and a cationic-group-containing monomer;

② polymer or copolymer of dimethyl diallyl ammonium;

③ polymer or copolymer of acrylic ester or methacrylic ester quaternary ammonium salt; and

④ quaternary ammonium salt of cellulose-base or chitosan-base polymer.

17. The cosmetic polymer composition of claim 1, which is a hair cosmetic polymer composition, comprising, in addition to the copolymer (a), a nonionic polymer (b3) in a ratio by weight ((a)/(b3)) of 1/10 to 10/1.

18. The cosmetic polymer composition of claim 17, wherein the nonionic polymer (b3) is a polymer containing, as a constituent, an unsaturated monomer having at least one functional group selected from pyrrolidone group, amido group

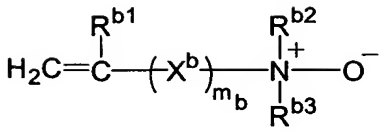
(containing N-alkyl amido), polyether group, formamide group and acetamide group.

19. The cosmetic polymer composition of claim 1, which is a hair cosmetic polymer composition, comprising, in addition to the copolymer (a), an amphoteric polymer (b4) in a ratio by weight ((a)/(b4)) of 1/10 to 10/1.

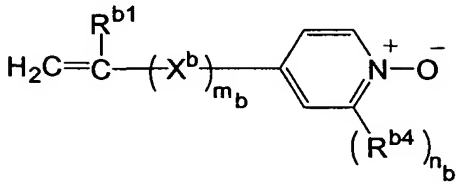
20. The cosmetic polymer composition of claim 19, wherein the amphoteric polymer (b4) is a polymer containing, as a constituent thereof, an unsaturated monomer having at least one betaine-structured group such as carboxybetaine group, sulfobetaine group, phosphobetaine group and so forth.

21. The cosmetic polymer composition of claim 1, which is a hair cosmetic polymer composition, comprising, in addition to the copolymer (a), an amine-oxide-group-containing polymer (b5) in a ratio by weight ((a)/(b5)) of 1/10 to 10/1.

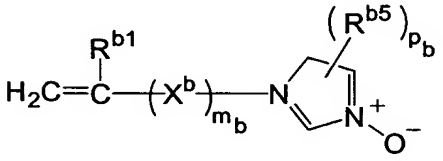
22. The cosmetic polymer composition of claim 21, wherein the amine-oxide-group-containing polymer comprises a unit derived from amine-oxide-group-containing unsaturated monomer and a unit derived from ethylenic unsaturated carboxylic acid ester, and the amine-oxide-group-containing unsaturated monomer is a compound represented by any one of formulae (b5-1) to (b5-4) below:



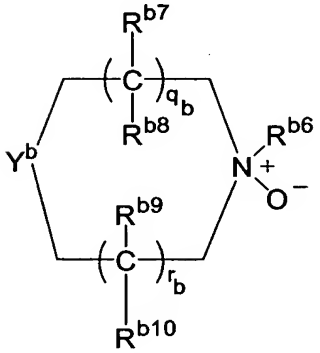
(b5-1)



(b5-2)



(b5-3)



(b5-4)

(where, R^{b1} represents a hydrogen atom or a methyl group, R^{b2} and R^{b3} represent a C_{1-24} alkyl group or aryl group or a C_{7-24} aralkyl group, which may be same or different each other; R^{b4} and R^{b5} represent a C_{1-24} alkyl group, a C_{6-24} aryl group or aralkyl group; X^b represents a divalent linking group; m_b is an integer of 0 or 1; n_b is an integer from 0 to 4; p_b is an integer from 0 to 3; and q and r represent an integer from 1 to 10, which may be same or different each other. Y^b represents at least one divalent linking group selected from the group consisting of $-C(R^{b11})(R^{b12})-$, $-N(R^{b13})-$, -S- and -O-.

At least one of R^{b6} to R^{b10}, R^{b11}, R^{b12} and R^{b13} represents a double-bond-containing groups represented by $CH_2=C(R^{b1})-(X^b)_{mb}-$, and other R^{b6} to R^{b10}, R^{b11}, R^{b12} and R^{b13} respectively represent a hydrogen atom, a C_{1-24} alkyl group, or a C_{6-24} aryl group or aralkyl group.)

23. The cosmetic polymer of any one of claim 1, which is a hair cosmetic polymer composition, comprising, in addition to the copolymer (a), a silicone derivative (b6).

24. The cosmetic polymer of claim 23, wherein an amount of the copolymer (a) is within a range from 0.01 to 20% by weight of the total composition, and an amount of the silicone derivative (b6) is within a range from 0.01 to 50% by weight of the total composition.

25. A cosmetic comprising a composition as set forth in claim 1.

26. The cosmetic of claim 24 for use on hair, skin or nail.